

SECTION 8.2

Biological Resources

8.2 Biological Resources

8.2.1 Introduction

The Modesto Irrigation District (MID) is proposing to construct and operate the MID Electric Generation Station (MEGS) in San Joaquin County, California. The objectives of this section are to describe the biological resources that occur in the general project area, including threatened and endangered species and their habitats, and to describe the potential impacts that could occur to those species as a result of the proposed project. The following includes a description of the laws, ordinances, regulations, and standards (LORS) that apply to biological resource protection, the setting and conditions of the affected site, the methods that were used to evaluate the potential presence of threatened and endangered species, and the potential adverse impacts that could occur to biological resources as a result of project implementation. This section discusses the feasibility of potential mitigation measures that would avoid, minimize, or compensate for unavoidable adverse impacts.

8.2.2 Applicable Laws, Ordinances, Regulations and Standards

The following describes the primary laws, ordinances, regulations, and standards associated with potential impacts to biological resources in the project area, and the agencies responsible for enforcing regulations.

8.2.2.1 Federal

Federal Endangered Species Act (FESA, 16 USC 153 et seq.)

Applicants for projects that could result in adverse impacts to any federally listed species are required to mitigate potential impacts in consultation with the U.S. Fish and Wildlife Service (USFWS). Adverse impacts are defined as “take,” which is prohibited except under authorization through Section 7 or Section 10 consultation and Incidental Take Authorization. The objective of consultation is to determine whether the proposed project would result in jeopardy to federally protected species, and what mitigation measures would be necessary to avoid jeopardy.

In general, mitigation is required for adverse impacts to any listed species or candidate species proposed for listing. Take, under federal definition, currently includes actions that could result in “significant habitat modification or degradation” (50 CFR Section 17.3). Candidate species do not have the full protection of FESA; however, the USFWS advises project applicants that Candidate species could be elevated to listed status at any time, and should be regarded as species with special consideration.

The proposed project is in the area covered by the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). The SJMSCP includes compensation requirements for take of federal special-status species and their habitat in accordance with FESA Section 10(a)(1)(B). The SJMSCP also includes prescribed protection and mitigation measures approved by USFWS. Direct consultation with USFWS would not be necessary based on MID participation with the SJMSCP (Parks 2003).

Migratory Bird Treaty Act (16 USC 703 to 711): Protects all migratory birds, including nests and eggs.

Bald and Golden Eagle Protection Act (16 USC 668): Specifically protects bald and golden eagles from harm or trade.

8.2.2.2 State

California Endangered Species Act (CESA) (Fish and Game Code Section 2050 et seq.)

Species listed under the CESA cannot be “taken” or harmed, except under specific permit. At present, “take” means to hunt, pursue, catch, capture, or kill or to attempt to do so. The proposed project is in the area covered by the SJMSCP. The SJMSCP includes compensation requirements for take of state special-status species and their habitat in accordance with CESA. The SJMSCP also includes prescribed protection and mitigation measures approved by the California Department of Fish and Game (CDFG) for special-status species of the state. Direct consultation with CDFG would not be necessary based on MID participation with the SJMSCP (Parks 2003).

Fish and Game Code Section 3511, 4700, 5050, and 5515: Protects bird, mammal, reptile, amphibian, and fish species, which are “fully protected.” Fully protected animals may not be harmed, taken, or possessed except under specific permit requirements.

Fish and Game Code Section 3503: It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.

Fish and Game Code Section 3503.5: Protects all birds-of prey and their eggs and nests.

Fish and Game Code Section 3513: Makes it unlawful to take or possess any migratory non-game bird as designated in the Migratory Bird Treaty Act.

Fish and Game Code Sections 1900 et seq., or Native Plant Protection Act: Lists threatened, endangered, and rare plants listed by the state.

Title 14, California Code of Regulations, Sections 670.2 and 670.5: Lists animals designated as threatened or endangered in California. California Species of Concern (CSC) is a category designated by CDFG for species considered to be indicators of regional habitat changes, or candidate species for future state listing. CSC do not have special legal status, but are used by CDFG as a management tool when considering the future use of any land parcel.

California Fish and Game Code (Sections 1601 through 1607): Prohibits alteration of any stream, including intermittent and seasonal channels and many artificial channels, without a permit from CDFG. This applies to any channel modifications that would be required to meet drainage, transportation or flood control objectives of the project. CDFG jurisdiction is limited to the 100-year flood level.

California Environmental Quality Act (CEQA): Requires that a project’s effects on environmental resources must be analyzed and assessed using criteria determined by the lead agency. Defines a rare species in a broader sense than the definitions of threatened, endangered, or CSC. Under this definition, CDFG can request additional consideration of species not otherwise protected.

Warren Alquist Act: A CEQA-equivalent process implemented by the California Energy Commission. Preparation of this SPPE Application will result in an Initial Study prepared by California Energy Commission Staff to fulfill CEQA requirements.

8.2.2.3 Local

Applicable Habitat Conservation Plans

The project is in the area covered by the SJMSCP. The SJMSCP includes prescribed compensation guidelines, conservation strategies, and minimization measures to mitigate for potential project impacts to wetlands and special-status species and/or their habitats.

City of Ripon General Plan

The City of Ripon General Plan does not include biological policies that would augment conditions and measures included in the SJMSCP.

San Joaquin County General Plan

The San Joaquin County General Plan does not include biological policies that would augment conditions and measures included in the SJMSCP.

8.2.3 General Location and Setting

The proposed MEGS project site is located on approximately 12.25 acres in southern Ripon, at the intersection of Stockton Avenue and Doak Boulevard, in San Joaquin County, California (Figure 2-1). The associated linear tie-ins are located onsite or within approximately 0.25 mile of the site. The region's climate is Mediterranean, characterized by hot, dry summers and cool wet winters. Summer temperatures frequently exceed 100 degrees Fahrenheit (°F), while winter temperatures are generally mild, with fewer than 20 freezing days per year. Rainfall averages 11.6 inches per year, with the wettest months between November and March.

8.2.4 Biological Setting

The following describes the biological conditions in the project area, including vegetation and habitat types, local wildlife species, and special-status species known, or with a potential, to occur in the general vicinity.

8.2.4.1 Methods

The biological setting characterization is based on information gathered during a review of existing references, aerial photographs, and reconnaissance and protocol-level field surveys. Figure 8.2-1 (located at the end of Section 8.2) presents the project features on an aerial photograph background.

A list of federal and state special-status plant and wildlife species was developed for the project based on database and literature searches, including agency consultation and site surveys. References searched included the California Natural Diversity Database (CNDDDB), the California Native Plant Society (CNPS) Electronic Inventory, and the SJMSCP. The CNDDDB and CNPS searches were performed for Manteca, Avena, Escalon, Ripon, Salida, Riverbank, Westley, Brush Lake, and Ceres 7.5-minute United States Geological Survey (USGS) quadrangles. The searches resulted in a list of special-status plant and wildlife species previously identified and/or potentially occurring in the vicinity of the proposed project. The special-status species list is summarized in Table 8.2-1 (at the end of this section) and also includes suitable habitat typically associated with each species; critical

seasonal periods associated with the species' natural history; and general comments. A project vicinity map, including CNDDDB search results, is presented on Figure 8.2-2. The SJMSCP contained additional background information.

Reconnaissance-level surveys of the site were conducted on December 16, 2002, and January 3, 17, and 31, 2003. These surveys, in conjunction with background information, were sufficient to determine the types of habitat present and the potential for supporting special-status species on the project site and general vicinity. Protocol surveys for nesting burrowing owls were conducted on the site in March and April 2003. Surveys for nesting Swainson's hawks within 0.5 mile of the site were also conducted in March and April 2003, to coincide with the return from winter migration.

8.2.4.2 General Vegetation and Habitat

The MEGS site is a uniformly flat, ruderal field of non-native grass surrounded by industrial land uses. The site was previously leveled and cultivated and is now a fallow field dominated by non-native grasses and other ruderal forbs. Under the SJMSCP, the site would be defined as Multi-Purpose Open Space Land due to the habitat it provides for various wildlife species (Parks 2003). An industrial plant is located immediately north of the site. The Fox River paper plant is located immediately to the east. The Fox River property is landscaped with a grove of evergreen trees. Approximately three elderberry bushes were located on the southeast side of the project site fence, but not located on property under the control of MID. The elderberry bushes were removed by the City of Ripon in January 2003, in preparation for construction of Doak Boulevard and a sewer system. The road and sewage line construction commenced in April 2003. The southern boundary of the MEGS site is adjacent to Ripon water treatment facility with several open water treatment ponds. The Stanislaus River and riparian corridor is located south of the water treatment facility, approximately 0.25 mile from the proposed site. An analogous open grassy field is located immediately west of the proposed site.

The nearby Stanislaus River and associated riparian corridor represent one of the most significant remaining natural habitats in the Central Valley. The Stanislaus River provides habitat for a variety of common and special-status species that depend on riparian habitats or have been displaced by the conversion of other natural habitats to agricultural land use. The Stanislaus River riparian woodland includes characteristic plant species, such as elderberry, blackberry, Western sycamore, Fremont cottonwood, valley oak, and willows. This riparian habitat supports a wide variety of wildlife species including rainbow trout, Pacific treefrogs, gopher snake, riparian nesting songbirds, woodpeckers, various nesting raptors, wood ducks, bats, opossum, skunk, and raccoon. It also supports special-status species, such as valley elderberry longhorn beetle, chinook salmon, western pond turtle, Swainson's hawk, riparian woodrat, and riparian brush rabbit. Much of the SJMSCP focus is directed at preserving and enhancing local riparian habitat.

The open-water ponds of the water treatment facility south of the site and north of the Stanislaus River also attract various wildlife species. The facility is likely visited by several species associated with the adjacent riparian habitat and to migratory birds, such as Bonaparte's gull, canvasback, little yellow legs, and killdeer. Special-status migratory waterfowl, such as Aleutian Canada goose, have been known to roost at other water treatment facilities in the area (SJMSCP 2000).

The project linears would include an approximately 0.25-mile subtransmission and fiber optic line, 30-foot maximum potable, non-potable, sewer, and storm water lines, and an approximately 0.25 mile natural gas pipeline. The approximately 0.25-mile 69-kV subtransmission line extends in a northeasterly direction to the existing MID Stockton Substation. The proposed project would use raw water from the City of Ripon non-potable water system for process water needs. Connection to the nonpotable water system would be made to the non-potable water pipeline the City of Ripon is installing within the extension of South Stockton Avenue, immediately adjacent to the project site. Plant potable water supply would be through a connection to the potable water service also being located in South Stockton Avenue, immediately adjacent to the site. Approximately 0.25 mile of new gas line would be located along Stockton Avenue to the local Pacific Gas and Electric Company (PG&E) main at 4th Street. All linears would be short in length and located in previously disturbed areas that would not require vegetation removal or any other significant disturbance of biological resources.

Wetlands

Wetlands and waters of the United States are defined by the U.S. Army Corps of Engineers by the presence of hydric soils, hydrophytic vegetation, and wetland hydrology (Environmental Laboratory, 1987). As noted above, the project site has been previously leveled and plowed and lacks any drainages or wetland features. The associated linear tie-ins would be short and localized, would be located in road cuts, and would not affect any wetland features.

Special-Status Plant Species

Database searches did not indicate that special-status plant species occur within the proposed project area. The site is maintained by annual plowing activities and is currently dominated by non-native grasses and forbs. The site would not likely provide habitat for special-status plant species. Spring surveys of the site would be conducted to observe potential special-status plant species during the appropriate blooming season. Given the site condition, any of the special-status plant species included in Table 8.2-1 would not likely be found within the project area.

Wildlife

The site is isolated and is not part of a contiguous natural area. The site does not function as part of a wildlife movement corridor. This limits the diversity of wildlife species that could potentially occur at the site. Routine plowing or clearing of the field has not deterred fossorial mammals from the site. The property includes several concentrations of small mammal burrows, primarily those of California ground squirrels. The small mammal presence lends to the possibility of other species, such as their predators (i.e., Swainson's hawk, Western burrowing owl, white-tailed kite, red-tailed hawk, coyotes, and gopher snakes), foraging on the site. In addition, other wildlife (i.e., California tiger salamander and western toad) could use the burrows as aestivation or shelter habitat, although the routine disking of the site reduces the quality and use of this habitat. In addition, poison bait stations occur along the perimeter of the wastewater treatment ponds adjacent to the site, which also limit the use of the site. The grassy field also provides potential forage for a number of species, such as Western meadow lark, Brewer's blackbird, mourning doves, rock doves, cottontail, and blacktail hare.

Special-Status Wildlife Species

No federal or state-listed species are known to occur on the site and none were observed during preliminary surveys. Although disturbed, the site may provide limited habitat for special-status species. This includes limited small mammal foraging opportunities for special-status raptor species, such as white-tailed kite, western burrowing owl, and Swainson's hawk. The site includes concentrations of California ground squirrels and may constitute a substantial prey base for local raptors.

California Tiger Salamander. A historical record from the CNDDDB includes a California tiger salamander occurrence near the northwest corner of proposed site. The record is from 1912 and is now considered extirpated. Sufficient vernal pool breeding habitat is no longer found on the site, although ground squirrel burrows onsite provide appropriate refugia. Overall, there is a low probability of occurrence onsite due to lack of available ephemeral breeding pool habitat nearby.

Aleutian Canada Goose. This species is a winter migrant to the Central Valley where its winter range is associated with wetlands, agriculture fields, flooded fields, and open land. CNDDDB records include birds along the San Joaquin River approximately 8 miles southwest. Accounts included birds roosting at Modesto Sewer Oxidation Ponds. Birds could likewise forage in grassy field onsite and roost in adjacent treatment ponds. Aleutian Canada geese were not observed during December 2002 or January 2003 site visits. Associated Aleutian Canada goose avoidance measures have been prescribed by the SJMSCP and are included in Section 8.2.6, Mitigation and Monitoring.

Snowy Egret and Great Blue Heron. These species are local residents found throughout California. They typically nest communally in dense marshes and trees near water. The Stanislaus River riparian corridor, approximately 0.25 miles south of the site, provides potential nesting opportunities. Avoidance measures would be needed for active nest sites within site vicinity during construction. No rookery nest sites were observed during initial surveys in the fall/winter when nest sites would have been readily observed if present. In addition, egret and heron nesting activity was not observed within the project vicinity during March and April 2003 bird surveys. Associated egret and heron avoidance measures have been prescribed by the SJMSCP and are included in Section 8.2.6, Mitigation and Monitoring. The project site is located farther away than the 500-foot buffer around nest sites required by the SJMSCP.

White-Tailed Kite. This species is a local resident, relatively abundant in California's Central Valley where it is commonly associated with riparian and open habitats. Their platform nests are located in trees or shrubs. White-tailed kites often form communal roosts in the fall and winter. The Stanislaus River riparian corridor provides potential nesting opportunities. The project site is located farther away than the 100-foot buffer around nest sites required by the SJMSCP. Associated white-tailed kite avoidance measures have been prescribed by the SJMSCP and are included in Section 8.2.6, Mitigation and Monitoring.

Swainson's Hawk. This species is primarily a spring/summer migrant to the Central Valley. It primarily nests in riparian trees adjacent to grassland, and agricultural areas with scattered trees. CNDDDB records also include a 1992 observation of an active Swainson's hawk nest site approximately 0.25 miles south of the site in the Stanislaus River riparian corridor. This raptor species is locally common and the nearby riparian corridor provides

abundant nest site opportunities. Local Swainson's hawks forage in nearby agricultural fields and areas of open space. The site may also provide a small mammal prey base as potential forage. A Swainson's hawk pair was observed in the general vicinity of the project site during March and April 2003 bird surveys. The birds were observed circling over the Stanislaus River riparian corridor and foraging in open fields approximately 0.75 miles southwest of the site (Figure 8.2-1). These birds likely nest in the adjacent riparian corridor at a sufficient distance to avoid disturbance from project construction activities. The majority of local Swainson's hawk foraging habitat is located in the contiguous agricultural fields south of the Stanislaus River. The project site is located greater than the two times the dripline distance of any nest trees as required by the SJMSCP. Associated Swainson's hawk avoidance measures have been prescribed by the SJMSCP and are included in Section 8.2.6, Mitigation and Monitoring.

Burrowing Owl. This species is primarily a summer migrant to the area. It is typically associated with open grassland habitat with ground squirrel burrows. Burrowing owls have the potential to occur on the site because the site includes appropriate open grass habitat with ground squirrel burrows. Burrowing owls often occur in similarly disturbed areas. CNDDDB records include accounts approximately 6 miles northwest, near Manteca. No burrowing owls were observed on the site during winter surveys. Additionally, no owls or associated signs were observed during protocol surveys conducted in March and April 2003. Owl activity may have been discouraged by non-project associated spring 2003 home, road, and sewage line construction activity within the immediate vicinity. Associated burrowing owl avoidance measures have been prescribed by the SJMSCP and are included in Section 8.2.6, Mitigation and Monitoring.

8.2.5 Impacts

8.2.5.1 CEQA Environmental Checklist

Table 8.2-2 provides the CEQA Checklist questions that are used in this Small Power Plant Exemption (SPPE) Application to assess the potential significance of an impact. Potential impacts to biological resources are addressed and mitigated by prescribed requirements in the SJMSCP.

8.2.5.2 Discussion of Impacts

The proposed MEGS site is isolated by surrounding development. The site was previously leveled and is routinely disked for fire control. The MEGS site has been a fallow field for approximately 5 years and is dominated by non-native grasses and other ruderal forbs. According to SJMSCP, the conversion of Multi-Purpose Open Space Land does not require compensatory mitigation by way of purchasing preserve land. Instead, the conversion triggers a requirement to provide funds for a portion of the enhancement, management, and administration cost associated with the existing preserve system. The required fees are \$845 per acre, and therefore, would require \$10,351.25 for the 12.25-acre project site.

Given an association with ground squirrel burrows, the western burrowing owl is the only sensitive species with the potential to occur directly on the site. No burrowing owls or sign of burrowing owl (pellets, whitewash, and feathers) has been observed at the site to date. If owls are found onsite during pre-construction surveys, project development would result in the displacement of owls and loss of habitat. Direct mortality would be avoided with the

TABLE 8.2-2
Biological Resources CEQA Checklist

	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant	No Impact
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS?		X		
b) Have a substantial adverse effect on any riparian habitat, or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFG USFWS?				X
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means?				X
d) Interfere substantially with the movement of any native resident, or migratory fish, or wildlife species, with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			X	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X

implementation of seasonal avoidance measures, while habitat loss would be mitigated by compensation. Mitigation and monitoring measures for burrowing owl and other species are included in Section 8.2.6, Mitigation and Monitoring.

The associated gas pipeline, electric subtransmission line, wastewater discharge and water supply pipelines are short and localized and would be located in paved and gravel roads. No impacts to natural habitats or potential habitat for special-status species would be affected by the project.

The project is located approximately 0.25 miles north of the Stanislaus River riparian corridor, but would not likely have a substantial effect on that natural community. Noise and general construction activity may be a source of temporary disturbance for breeding birds with nest site locations within the corridor. Spring surveys for breeding birds were conducted in March and April 2003 to locate active nest sites that could be affected by construction within 0.5 mile or other species-specific appropriate distance from the site. No

active nests were observed. If active nest sites are located for sensitive species, such as snowy egret, great blue heron, white-tailed kite, and Swainson's hawk, appropriate mitigation and avoidance measures would be implemented to reduce the impacts to these species (see Section 8.2.6, Mitigation and Monitoring). As described in the SJMSCP, mitigation measures are not likely needed for wintering Aleutian Canada geese, because they would likely be flushed by any disturbance to another roosting area.

The project site has been leveled and does not include any drainage or wetland features, and therefore, would not involve removal, fill, or hydrological interruption of any federally protected wetlands.

The project gas pipeline, electric subtransmission line, wastewater discharge and water supply pipelines are short in length and are located in previously disturbed and/or paved areas that would not require vegetation removal or any other significant disturbance of biological resources.

8.2.5.3 Cumulative Impacts

Mitigation to offset the cumulative impacts of other projects planned for the area has been prearranged by measures set forth in the SJMSCP. Therefore, the MEGS project, in conjunction with other projects planned for the area, would not have significant cumulative impacts on biological resources.

8.2.6 Mitigation and Monitoring

The SJMSCP was developed in consultation with USFWS and CDFG and includes mitigation measures, compensation requirements, and take limitations analogous to conditions of a Biological Opinion. Based on the protection and mitigation measures developed for and implemented by the SJMSCP, Incidental Take Minimization Measures would be incorporated into the project activities as a condition of project approval. These measures would include the following:

8.2.6.1 Incidental Take Minimization Measures Identified in the SJMSCP

Preconstruction Surveys

Preconstruction botanical surveys would be conducted to verify vegetation types affected by the project and to determine if any special-status plant species are present. Appropriate prescribed SJMSCP mitigation measures would be implemented, as necessary, based upon survey results.

Preconstruction surveys would be conducted prior to ground-disturbing activities to ensure clearance of any sensitive species. If wildlife is found within the project disturbance areas, individuals would be salvaged and allowed to relocate on their own or actively relocated as directed by CDFG. Preconstruction surveys for the MEGS project would be conducted for Swainson's hawk and burrowing owls.

Environmental Awareness Training

All onsite construction personnel would be trained in recognizing sensitive habitat areas and sensitive species that could be found during construction. Emphasis would be placed on the importance of avoiding impacts to these species and their habitats, especially near the Stanislaus River riparian corridor.

Species-Specific Measures

The following measures would be implemented to avoid impacts to the following special-status species. The species below have been determined to have a moderate or high likelihood for occurring on or near the project site. If other unanticipated special-status species are encountered, specific avoidance measures would be implemented as defined in the SJMSCP.

Aleutian Canada Goose (*Branta canadensis leucopareia*). (Refer to SJMSCP, Section 5.2.4.14.) Potential impacts to Aleutian Canada goose would be limited to disturbance and/or loss of potential forage habitat or disturbance of nearby roost that could occur at the adjacent sewage treatment ponds. Construction activities are not likely to result in take of this species; therefore, as described in the SJMSCP, the loss of potential forage habitat would be offset by associated mitigation fee payment.

Snowy Egret (*Egretta thula*) and Great Blue Heron (*Ardea herodias*). (Refer to SJMSCP, Section 5.2.4.16.) Snowy egret and great blue heron are covered by protective measures prescribed for *Colonial Nesting Birds* in the SJMSCP. Site development would not include the removal of any potential nest trees.

A 500-foot buffer would be maintained around any egret or heron breeding colony for a period encompassing nest building and until fledglings have left the nest.

White-Tailed Kite (*Elanus leucurus*). (Refer to SJMSCP, Section 5.2.4.19.) White-tailed kite are covered by protective measures prescribed for *Birds Nesting Along Riparian Corridors* in the SJMSCP. Site development would not include the removal of any potential nest trees and would be limited to the loss of potential forage habitat for white-tailed kite.

A 100-foot setback would be maintained around occupied nest sites for a period encompassing nest building and until fledglings have left the nest.

Swainson's Hawk (*Buteo swainsoni*). (Refer to SJMSCP, Section 5.2.4.11.) No potential nest trees would be removed during project activities. Site development may remove potential forage habitat for Swainson's hawk.

If a nest tree becomes occupied during construction activities, then all construction activities should remain a distance of two times the dripline of the tree, measured from the nest.

Western Burrowing Owl (*Athene cunicularia*). (Refer to SJMSCP, Section 5.2.4.15.) Burrowing owls may be attracted to the site based on the presence of ground squirrel burrows used for nesting. Therefore, project activities could result in the disruption and take of breeding owls and/or the loss of potential breeding and/or forage habitat.

Burrowing owls would be discouraged from using the site during construction by discouraging the presence of ground squirrels. This would be accomplished in the following ways:

- Individual squirrels would be removed from the site by trapping and relocation or by an approved rodenticide or fumigation application. Following squirrel removal, the site would be disked or plowed to destroy existing ground squirrel burrows.

If ground squirrel removal is not effective in discouraging burrowing owls from the site, the following alternatives would be implemented:

- During the nonbreeding season (September 1 through January 31), burrowing owls occupying the project site would be evicted by passive relocation. Passive relocation would include installation of one-way doors to let owls out of the burrow but would not let them back in, as described in the CDFG Staff Report on Burrowing Owls (CDFG 1995).
- During the breeding season (February 1 through August 31), 75-meter (246-foot) protective buffers would be maintained around burrows occupied by owls until a CDFG approved biologist approves other action. Other actions could include passive relocation if it is determined that owls have not begun laying eggs, or postponing construction in the area until the young are fledged and no longer dependent on the nest burrow. Once fledglings are capable of independent survival or nonbreeding adult owl have been excluded, the burrow can be destroyed.

Reporting Requirements

If the mitigation measures prescribed in the SJMSCP are approved and employed, MID would prepare and submit an annual report to the SJMSCP Joint Powers Authority. The report would address any special-status species encountered at the site during construction, any monitoring activities performed, and the effectiveness of protection and mitigation measures.

8.2.7 Involved Agencies and Agency Contacts

TABLE 8.2-3
Contacts for the MEGS Project

Biological Resource Agency	Person Contacted/Title	Issue	Phone
San Joaquin Council of Governments	Gerald Park/Regional Planner	Special-status species covered by the SJMSCP	(209) 468-3913
USFWS	Adam Zerrenner/Staff Biologist	Federal threatened or endangered species	(916) 414-6600
CDFG	Dan Gifford/Regional Biologist	California threatened or endangered species	(209) 369-8851

8.2.8 Permits Required and Permit Schedule

TABLE 8.2-4
Permits and Schedule

Permit/Authorization	What is Required to Complete Consultations
SJMSCP Permit	SJMSCP Joint Powers Authority approval. Application will consist of the biological resources section of the SPPE application. Approval would be anticipated 2 to 4 weeks after submittal.

8.2.9 References

- Environmental Laboratory. 1987. "USACE Wetland Delineation Manual, Final Report Y-87-1." U.S. Army Engineer Waterways Experiment Station. Vicksburg, Mississippi.
- CDFG (California Department of Fish and Game). 2002. *California Natural Diversity Database*. Search of the Manteca, Avena, Escalon, Ripon, Salida, Riverbank, Westley, Brush Lake, and Ceres 7.5-minute U.S. Geological Survey quadrangles.
- CDFG (California Department of Fish and Game). 1994. Staff Report Regarding Mitigation for Swainson's Hawk (*Buteo swainsoni*) in the Central Valley of California. Prepared by the California Department of Fish and Game. November 1.
- CDFG (California Department of Fish and Game). 1995. Staff Report on Burrowing Owl Mitigation. Memorandum Prepared by the California Department of Fish and Game. October 17.
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- Skinner, M. W. and B. M. Pavlik (eds). 1994. *Inventory of Rare and Endangered Vascular Plants of California*. California Native Plant Society Special Publication No. 1 (Fifth edition). Sacramento, California. 338 pp.
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- Stebbins, R.C. 1985. Western Reptiles and Amphibians. 2nd ed. Houghton Mifflin Co., Boston, 336 pps.
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- Zeiner, D. C., W. F. Laudenslayer, Jr., K. E. Mayer, and M. White. 1990a. *California's Wildlife, Volume 2: Birds*. California Department of Fish and Game, Sacramento.

Zeiner, D. C., W. F. Laudenslayer, Jr., K. E. Mayer, and M. White. 1990b. *California's Wildlife, Volume 3: Mammals*. California Department of Fish and Game, Sacramento.

Zeiner, D. C., W. F. Laudenslayer, Jr., K. E. Mayer, and M. White. 1990c. *California's Wildlife, Volume 1: Amphibians*. California Department of Fish and Game, Sacramento.

Zerrenner, Adam. 2002. U.S. Fish and Wildlife Service Staff Biologist. Personal communication with Debra Crowe. November 11.

TABLE 8.2-1
Special-Status Species Potentially Occurring in MEGS Project Area

Common Name	Scientific Name	Status Federal/State/CNPS	Primary Habitat and Critical Seasonal Periods	Likelihood for Occurrence in Project Area and Comments
Plants				
San Jacinto Valley crownscale	<i>Atriplex coronata</i> <i>var. notatior</i>	FE/none/1b	Annual herb. Blooms April through August. Considered endemic to Riverside County. Associated with playas, grassland, and vernal pool communities.	Low. Appropriate native grassland habitat is not found at the site. This plant species is considered endemic to Riverside County where it is associated with the alkaline flats of the San Jacinto River Valley. A local CNDDDB record dates from 1937 from a location approximately 12 miles south along the San Joaquin River. The record is currently unsubstantiated.
Brittlescale	<i>Atriplex depressa</i>	FSC/none/1b	Annual herb. Blooms May through October. Associated with chenopod scrub, meadow, playa, grassland, and alkaline vernal pool communities.	Low. Appropriate native grassland habitat is not found at the site. CNDDDB records include an occurrence in alkaline area approximately 7 miles to the southwest.
Big tarplant	<i>Blepharizonia</i> <i>plumosa</i> ssp. <i>plumosa</i>	FSC/none/1b	Annual herb. Blooms July through October. Associated with grassland communities.	Low. Appropriate native grassland habitat is not found at the site. CNDDDB records include an 1878 account approximately 12 miles to the south near Grayson.
Round-leaved filaree	<i>Erodium</i> <i>macrophyllum</i>	none/none/2	Annual herb. Blooms March through May. Associated with cismontane woodland and grassland communities.	Low. Appropriate native grassland habitat is not found at the site. CNDDDB records include a 1935 account approximately 13 miles to the south near Westley.
Diamond-petaled California poppy	<i>Eschscholzia</i> <i>rhombipetala</i>	FSC/none/1b	Annual herb. Blooms March through April. Associated with alkaline grassland communities.	Low. Appropriate native grassland habitat is not found at the site. CNDDDB records include a 1940 account approximately 18 miles to the southwest at the mouth of Del Puerto Canyon near Highway 5. Not observed in previous surveys up to 1980.
Legenere	<i>Legenere limosa</i>	FSC/none/1b	Annual herb. Blooms April through June. Associated with vernal pool communities.	Low. Appropriate habitat is not found at the site. CNDDDB records include 1930s collections from Valley Home approximately 12 miles to the northeast. The habitat has since been converted and the species was not found during 1983 surveys of the previous location.
Greene's tuctoria	<i>Tuctoria greenei</i>	FE/R/1b	Annual herb. Blooms May through September. Associated with vernal pool communities.	Low. Appropriate habitat is not found at the site. CNDDDB records include a 1930s account near Escalon, approximately 10 miles north northeast. In 1987 it was reported that the associated vernal pool habitat no longer existed at that location.

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Delta button celery	<i>Eryngium racemosum</i>	FSC/E/1b	Annual/perennial herb. Blooms June through August. Associated with riparian scrub communities.	Low. Appropriate habitat is not found at the site. CNDDDB includes historical records from the Stanislaus River riparian corridor in Caswell Historical Park approximately 3 miles southwest.
Insects and Crustacea				
Conservancy fairy shrimp	<i>Branchinecta conservatio</i>	FE/none/NA	Local resident. Associated with turbid, ephemeral swales and vernal pools in grassland communities. Cysts hatch and shrimp become active when pools fill during the winter rainy season.	Low. Vernal pools and ponding areas were not found onsite during 2003 surveys. CNDDDB includes occurrence approximately 7 miles southwest on Mapes Ranch.
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	FE/none/NA	Local resident. Associated with ephemeral swales and vernal pools in grassland communities. Cysts hatch and shrimp become active when pools fill during the winter rainy season.	Low. Vernal pools and ponding areas were not found onsite during 2003 surveys. CNDDDB includes occurrence approximately 6 miles southwest near the Riley Slough.
Vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	FT/none/NA	Local resident. Associated with a variety of artificial and natural vernal pools in grassland communities. Cysts hatch and shrimp become active when pools fill during the winter rainy season.	Low. Vernal pools and ponding areas were not found onsite during 2003 surveys. CNDDDB includes occurrence approximately 11 miles east in a tire track pool along a railroad.
California linderiella	<i>Linderiella occidentalis</i>	none/CSC/NA	Local resident. Associated with vernal pools in grassland communities. These pools are often formed in rock depressions. Cysts hatch and shrimp become active when pools fill during the winter rainy season.	Low. Vernal pools and ponding areas were not found onsite during 2003 surveys. CNDDDB includes occurrence approximately 6 miles southwest near the Riley Slough.
Molestan blister beetle	<i>Lytta moesta</i>	FSC/none/NA	Local resident. Associated with vernal pool and surrounding grassland communities. Little is known of this species' natural history.	Low. The site lacks associated vernal pool habitat. CNDDDB includes historical occurrence approximately 13 miles to the south near Westley.

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Common Name	Scientific Name	Status Federal/State/CNPS	Primary Habitat and Critical Seasonal Periods	Likelihood for Occurrence in Project Area and Comments
Valley elderberry longhorn beetle	<i>Desmocerus dimorphus dimorphus</i>	FT/none/NA	Local resident. Requires elderberry shrubs for all stages of natural history.	Low. There are no elderberry shrubs onsite. Elderberries located along Stockton Road east of the property were removed by the City of Ripon as part of a project unrelated to the MEGS project in January 2003. CNDDDB records include records approximately 5 miles to the southwest within the Stanislaus River riparian corridor in the vicinity of Caswell Memorial State Park. Elderberry habitat is located approximately 0.25 miles to the south within the Stanislaus River riparian corridor; however, no project impacts to the riparian corridor will occur.
Reptiles and Amphibians				
California tiger salamander	<i>Ambystoma californiense</i>	none ^a /SC/NA	Local resident. Requires ephemeral ponds lasting 3 months or more for reproduction and annual grassland for forage and aestivation. Typically take cover in small mammal burrows.	Low. Historical record in CNDDDB located near northwest corner of proposed site. Record is from 1912 and now considered extirpated. Sufficient vernal pools for breeding not found on site or in the general vicinity. Sufficient burrow shelter habitat onsite provided by ground squirrel burrows. Low probability of occurrence onsite due to lack of available ephemeral breeding pool habitat nearby.
Birds				
Aleutian Canada goose	<i>Branta canadensis leucopareia</i>	FD, MB/none/NA	Winter migrant to area. California winter range is associated with wetlands, agriculture fields, flooded fields, and open land. Breeds in Aleutian Islands and winters in the Central Valley.	Moderate. CNDDDB records include birds along the San Joaquin River approximately 8 miles southwest. Accounts included birds roosting at Modesto Sewer Oxidation Ponds. Birds could likewise forage in grassy field onsite and roost in adjacent treatment ponds. Not observed during December 2002 or January 2003, site visits.
Snowy egret (rookery)	<i>Egretta thula</i>	FP, MB/none/NA	Local resident. Found throughout California. Associated with estuaries, wetlands, ponds, rivers, irrigation ditches, and flooded agricultural fields. Nest communally in dense marshes and trees. Breeding season is from March-May.	Moderate. The Stanislaus River riparian corridor, approximately 0.25 miles south of the site provides potential nesting opportunities. Avoidance measures needed for active nest sites within site vicinity during construction. No active nests were observed in the project vicinity during spring 2003 surveys.

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Common Name	Scientific Name	Status Federal/State/CNPS	Primary Habitat and Critical Seasonal Periods	Likelihood for Occurrence in Project Area and Comments
Great blue heron (rookery)	<i>Ardea herodias</i>	MB/none/NA	Local resident. Primary habitat associated with marshes, lagoons, streams, lakes, and ponds. Also found in fields and meadows. Typically nest communally in tall trees near water. Breeding typically begins in March.	Moderate. The Stanislaus River riparian corridor, approximately 0.25 miles south of the site provides potential nesting opportunities. Avoidance measures needed for active nest sites within site vicinity during construction. No active nests were observed in the project vicinity during spring 2003 surveys.
White tailed kite	<i>Elanus leucurus</i>	FSC, MB/FP/NA	Local resident. Abundant in California's Central Valley where it is commonly associated with riparian and open habitats. Typically breed between January and August. Their platform nests are located in trees or shrubs. Primarily a local resident and is known to form communal roosts in the fall and winter.	Moderate. The Stanislaus River riparian corridor, approximately 0.25 miles south of the site provides potential nesting opportunities. Avoidance measures needed for active nest sites within site vicinity during construction. No active nests were observed in the project vicinity during spring 2003 surveys.
Western yellow billed cuckoo	<i>Coccyzus americanus occidentalis</i>	None/SE/NA	Summer migrant to area. Nests in dense riparian forest and may also use orchards. Typically arrives in June for breeding and migrates out of the area in August or September.	Low. CNDDDB records include historical accounts of nest sites from the 1962 to 1973 near the mouth of the Stanislaus River, approximately 5 miles southwest. The breeding populations may have been extirpated from the area, therefore probable occurrence is low. However, the Stanislaus River riparian corridor, approximately 0.25 miles south of the site provides potential nesting opportunities.
Western burrowing owl	<i>Athene cunicularia</i>	FSC/CSC, MB/NA	Primarily a summer migrant to area. Habitats include open grassland habitat with fossorial mammal burrows, often associated with ground squirrels. Utilize small mammal burrows for cover and natal dens. Breeding season is typically from February through August.	Moderate. The site includes appropriate open grass habitat with ground squirrel burrows. Burrowing owls often occur in similarly disturbed areas. CNDDDB records include accounts approximately 6 miles northwest, near Manteca. Avoidance measures needed for active nest sites in site vicinity during construction. No active nests were observed during spring 2003 protocol surveys.

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Swainson's hawk	<i>Buteo swainsoni</i>	MB/CT/NA	Primarily spring/summer migrant in Central Valley. Nests primarily in riparian trees adjacent to grasslands and agricultural areas with scattered trees. Primarily associated with the Central Valley during the breeding season, migrating to Central and South America in the fall/winter.	High. CNDDDB records include 1992 observation of active nest site approximately 0.25 miles south of the site in the Stanislaus River riparian corridor. Avoidance measures needed for active nest sites within site vicinity during construction. The site provides a small mammal prey base as potential forage. A breeding pair was observed within 0.75 miles of site during spring 2003 surveys.
Tricolored blackbird (breeding colonies)	<i>Agelaius tricolor</i>	MB/CSC/NA	Summer migrant to area. Found throughout the Central Valley where it is associated with wetland areas with dense vegetation, such as cattails, tule, and bulrush. Forage in grassland and agricultural fields. Nest in large colonies. Breeding season is April through July. However, breeding has also been reported in October and November.	Low. CNDDDB records include 1970s accounts in the general vicinity. Actual locations are suppressed. The site does not include appropriate wetland breeding habitat though tricolored blackbirds could perceivably forage on the site. No active nests were observed in the project vicinity during spring 2003 surveys.
Mammals				
Riparian brush rabbit	<i>Sylvilagus bachmani riparius</i>	FE/CE/NA	A local resident currently limited to riparian habitat in Caswell Memorial State Park in Stanislaus River riparian corridor. Associated with dense riparian vegetation.	Low. Known primarily from the Stanislaus River riparian corridor in Caswell Memorial State Park, approximately 4 miles southwest. A second population has been recently discovered elsewhere on the San Joaquin River. The project site lacks appropriate riparian habitat (Zerrenner 2002). The Stanislaus River riparian corridor, approximately 0.25 miles south of the site provides the closest potential habitat.
Riparian woodrat	<i>Neotoma fuscipes riparia</i>	E/CSC/NA	A local resident associated with riparian areas along the San Joaquin, Stanislaus, and Toulumne rivers. Typically nest in trees, snags, or fallen wood.	Low. CNDDDB records include an occurrence from the Stanislaus River riparian corridor in Caswell Memorial State Park, approximately 4 miles southwest. The site lacks appropriate riparian habitat (Zerrenner 2002). The Stanislaus River riparian corridor, approximately 0.25 miles south of the site provides the closest potential habitat.

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San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	FE/CT/NA	Local resident. Primarily associated with the grassland, woodland, and scrub communities of the Central Valley. Underground or artificial burrows are used for cover and natal dens. Den locations are frequently moved. Natal den preparation often begins in September. Mating typically takes place in December to March. Pups are born in February to March. Young then disperse in August to September.	Low. CNDDDB records include accounts for various locations in the northwest San Joaquin County. The site is isolated by development and would provide more appropriate habitat if it were contiguous with a larger area of open habitat.

Key to Status Codes:^aFederally-listed in Santa Barbara and Sonoma counties only

Notes:

Federal:

FE = Federal Endangered

FPE = Federal Proposed Endangered

FT = Federal Threatened

FSC = Federal Species of Concern

FC = Federal Candidate Species

State:

CE = State Endangered

CT = State Threatened

CSC = California Species of Special Concern

Other:

CNPS = California Native Plant Society Listed

1B = Plants, rare, threatened or endangered in California and elsewhere and are rare throughout their range. According to CNPS, all of the plants constituting List 1B meet the definitions of Section 1901.

FP = Fully Protected

R = Rare

NA = Not Applicable

Sources:

CDFG. 2002. *California Natural Diversity Database*. Search of the Manteca, Avena, Escalon, Ripon, Salida, Riverbank, Westley, Brush Lake, and Ceres 7.5-minute U.S. Geological Survey quadrangles. January 2003.California Native Plant Society. 2001. *Inventory of Rare and Endangered Vascular Plants Of California*. August.